

Figure 1 - Conventional TV System Block Diagram

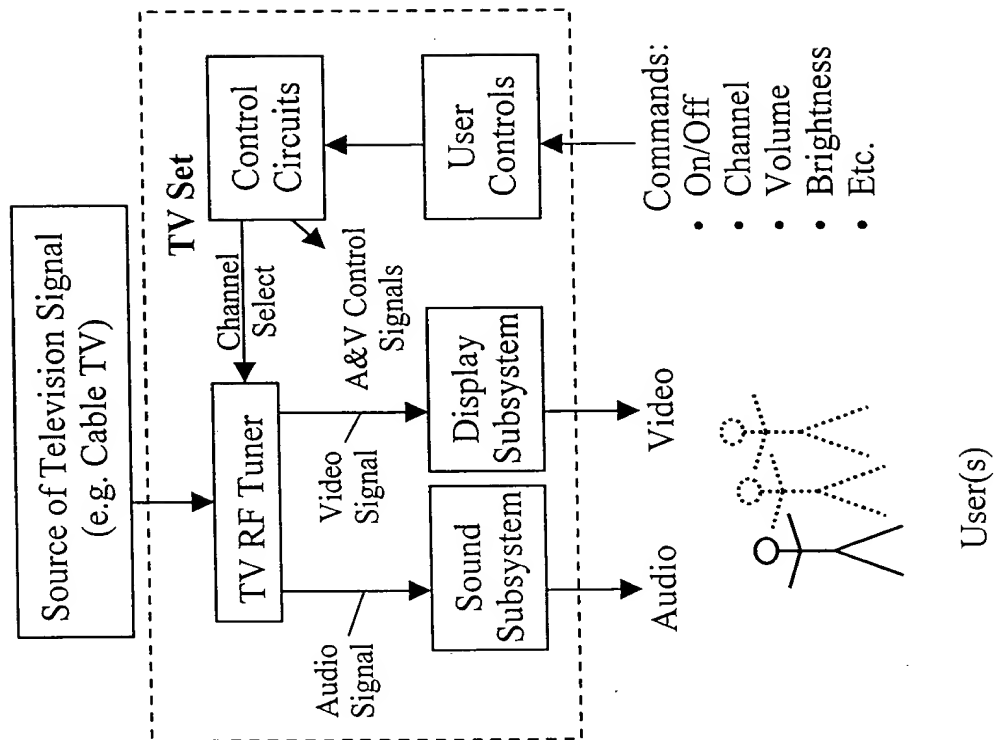


Figure 2 - Conventional TV System w/ Remote Control

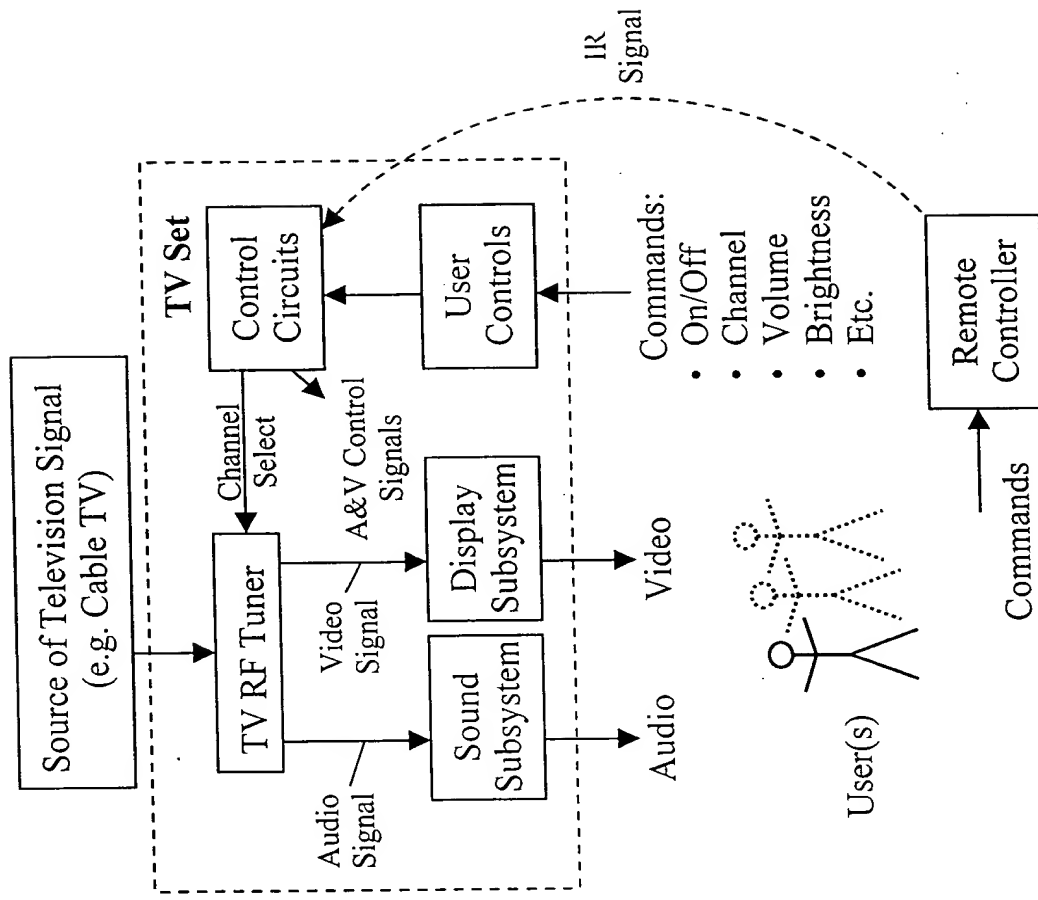


Figure 3 - Untethered TV (UTV)

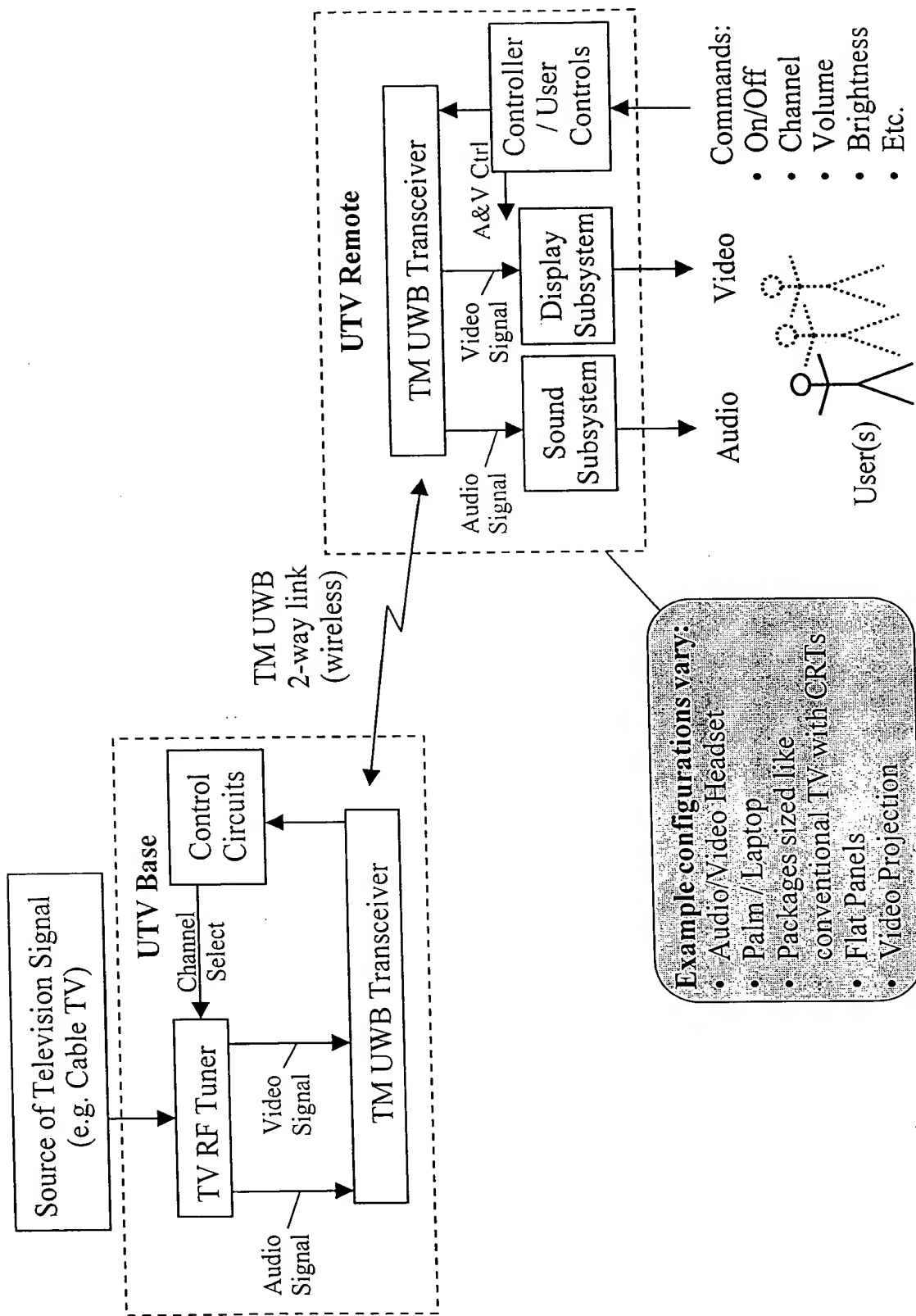


Figure 4 - UTV w/ Remote Controller

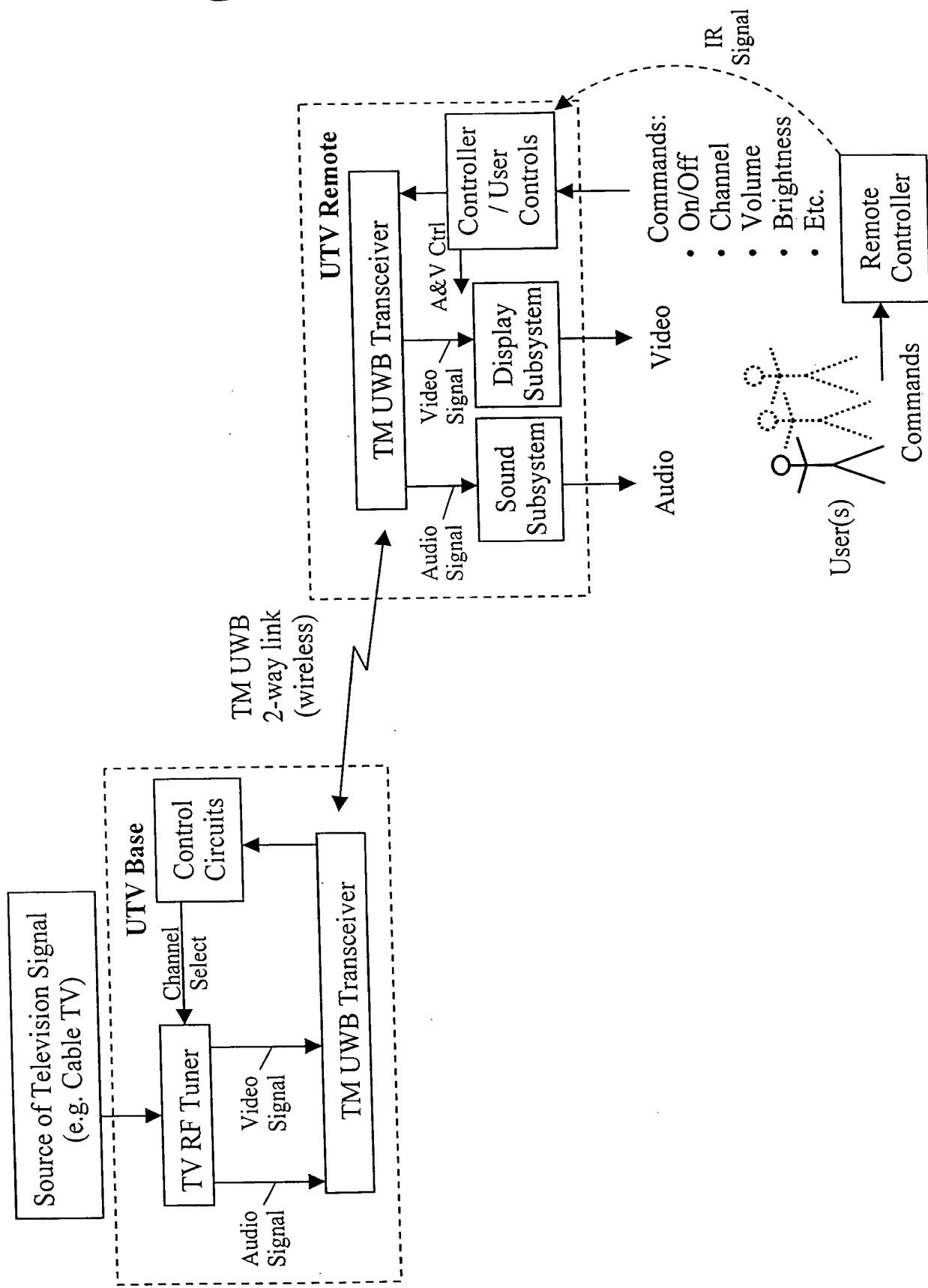


Figure 5 – Generalized Configuration of Untethered TV (UTV)

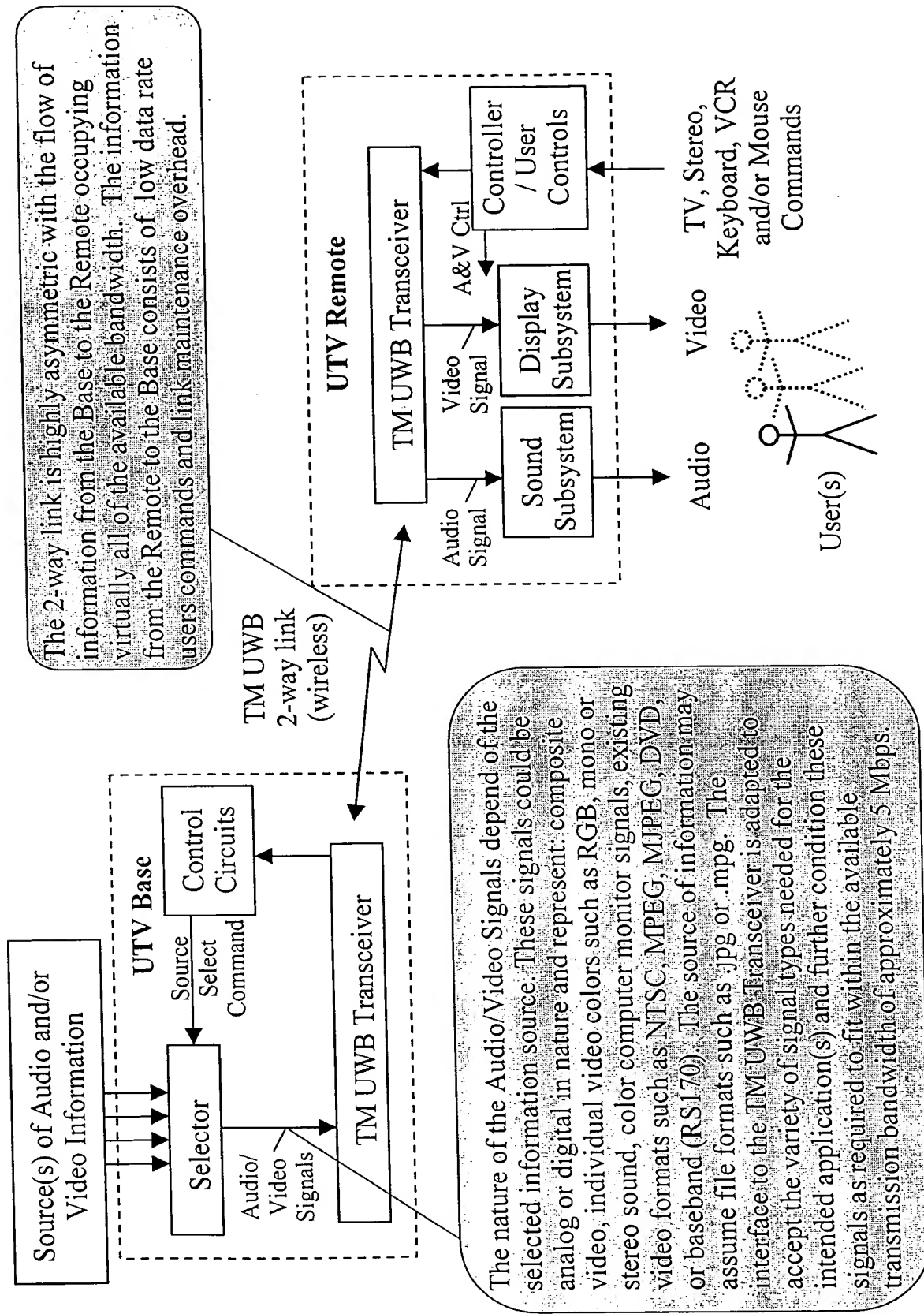
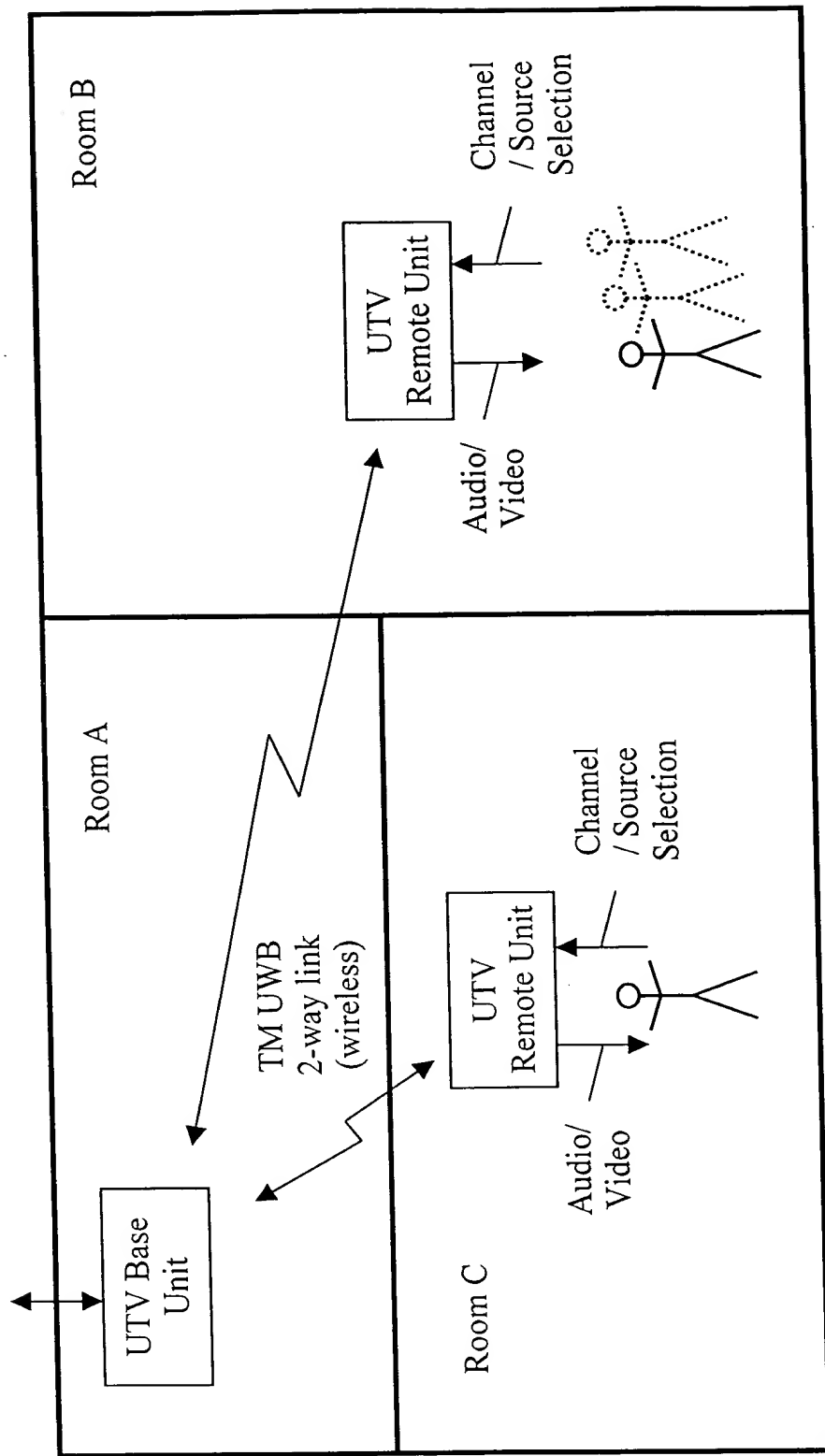


Figure 6 - Multiple UTV Remote Units

Source of Information Signal
(Cable TV, Satellite Dish, Antenna &
Tuner for Broadcast TV, Computer)



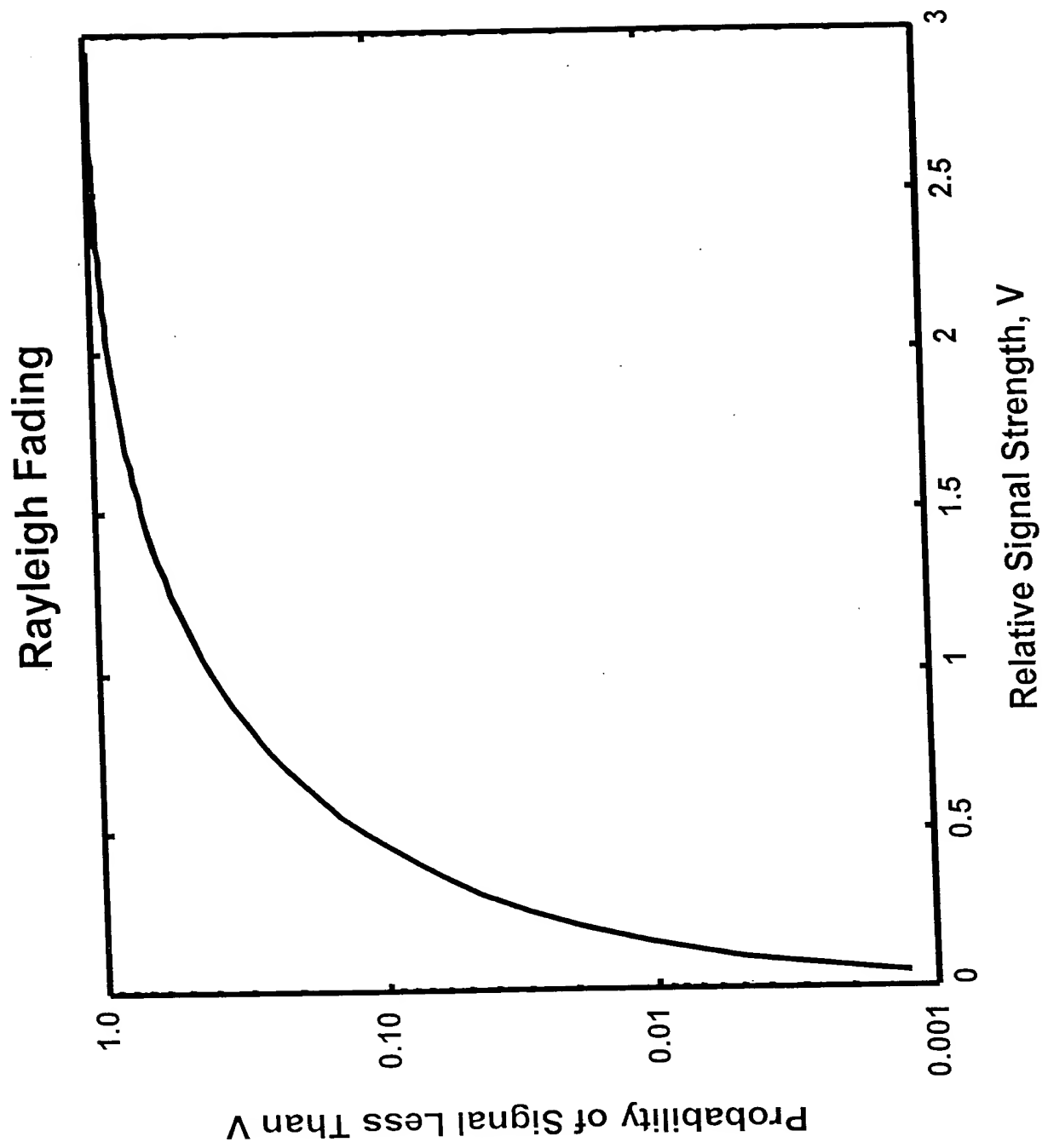


FIG. 7A

Rayleigh Fading

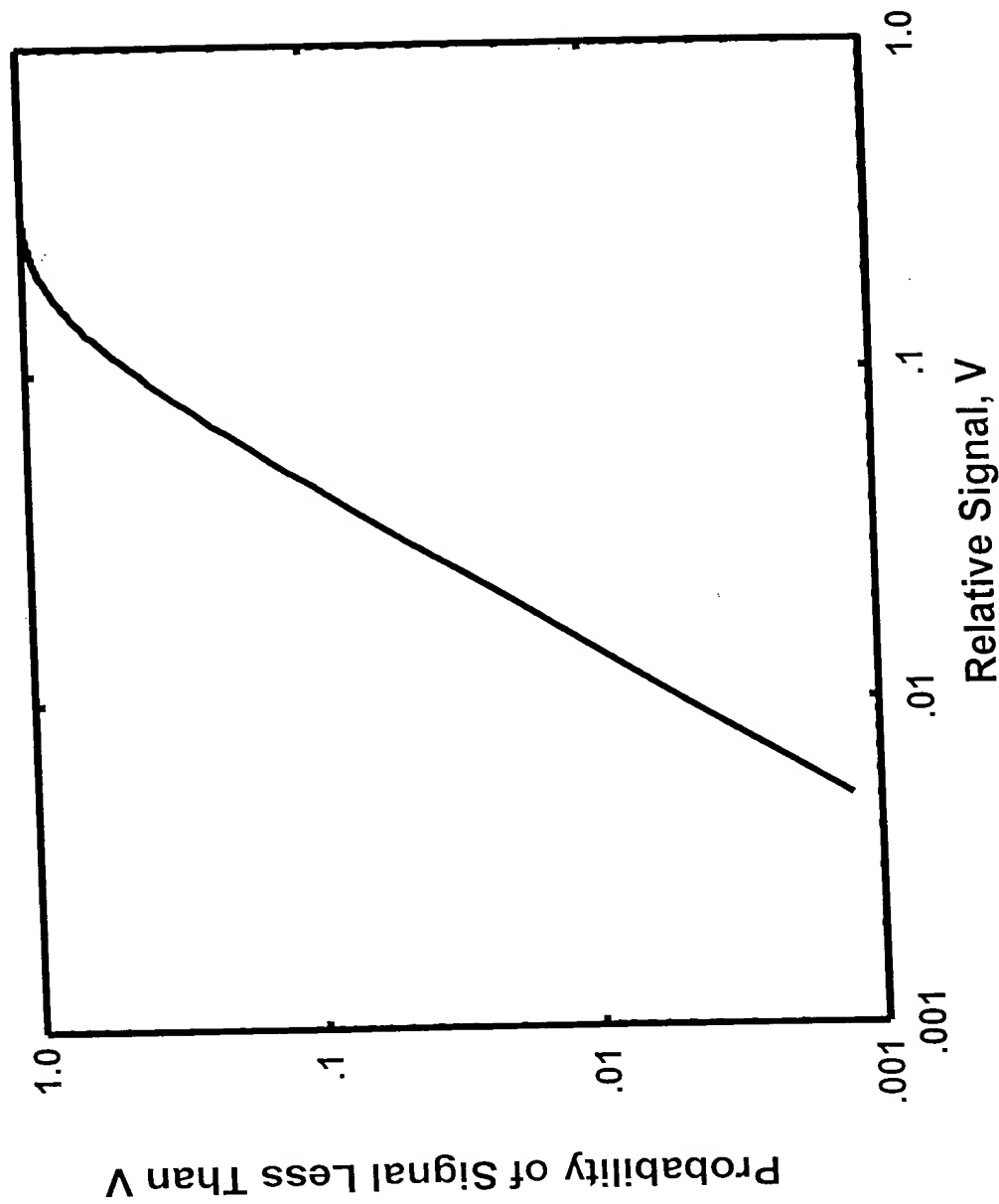
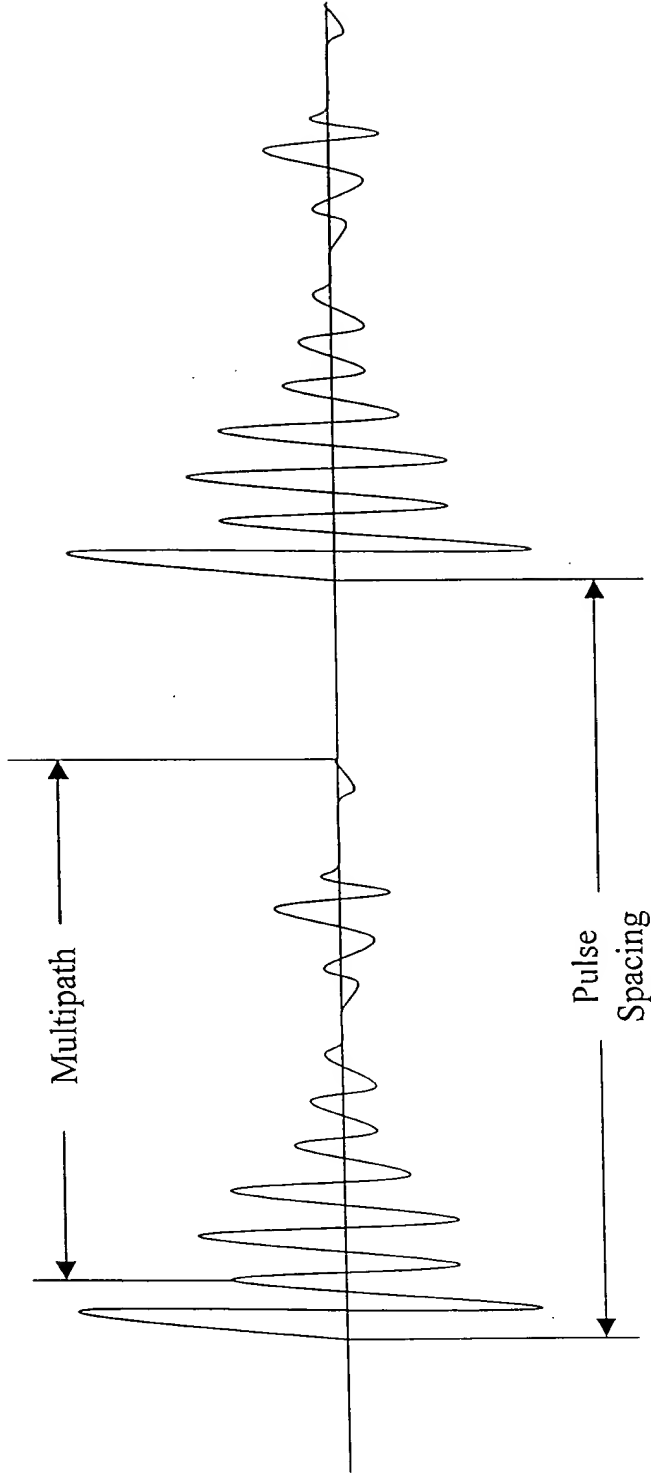


FIG. 7B

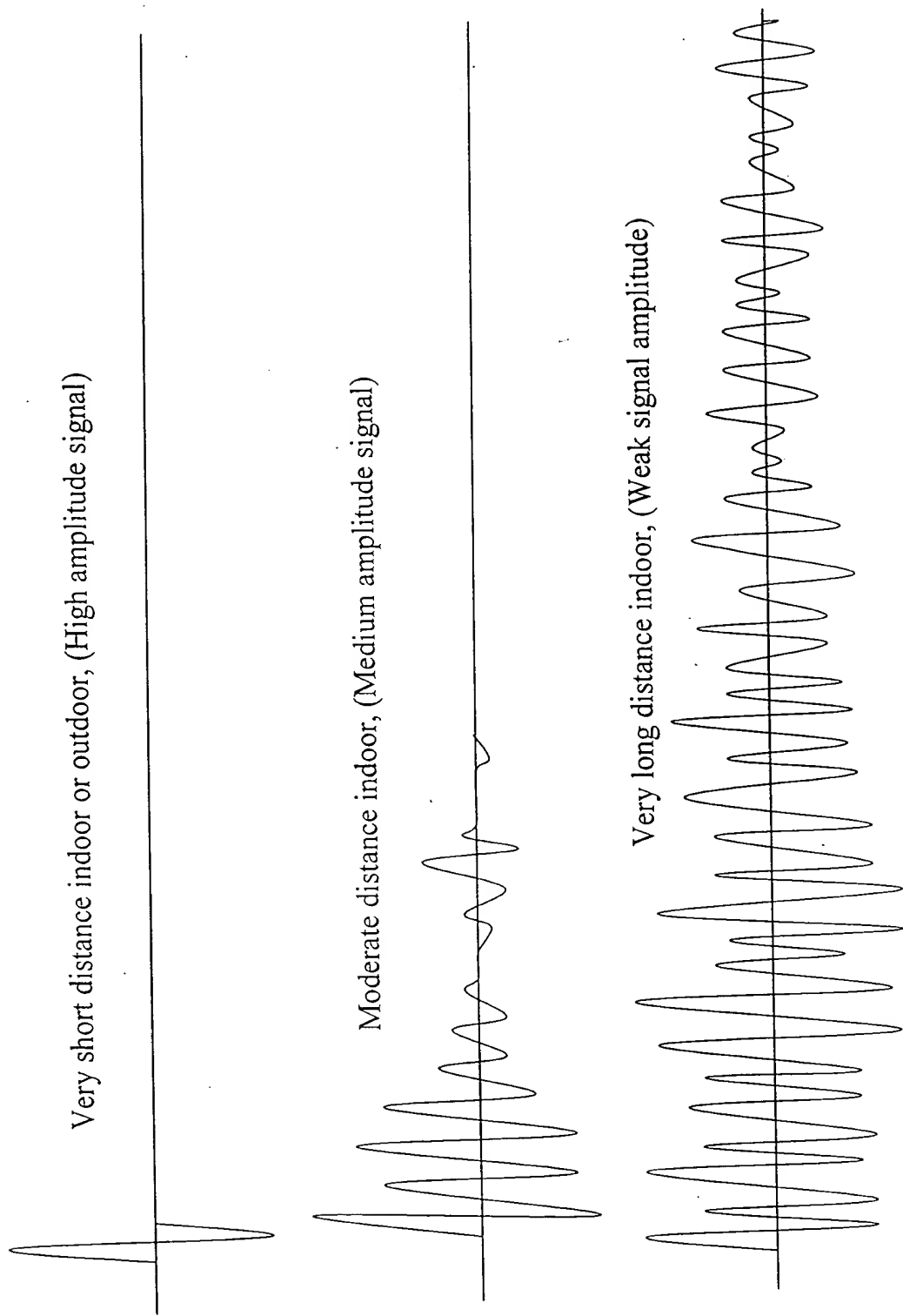
Pulse Rate Limitations



Pulse separation showing full multipath separation - the second pulse starts after the multipath completely dies out.

FIG. 7C

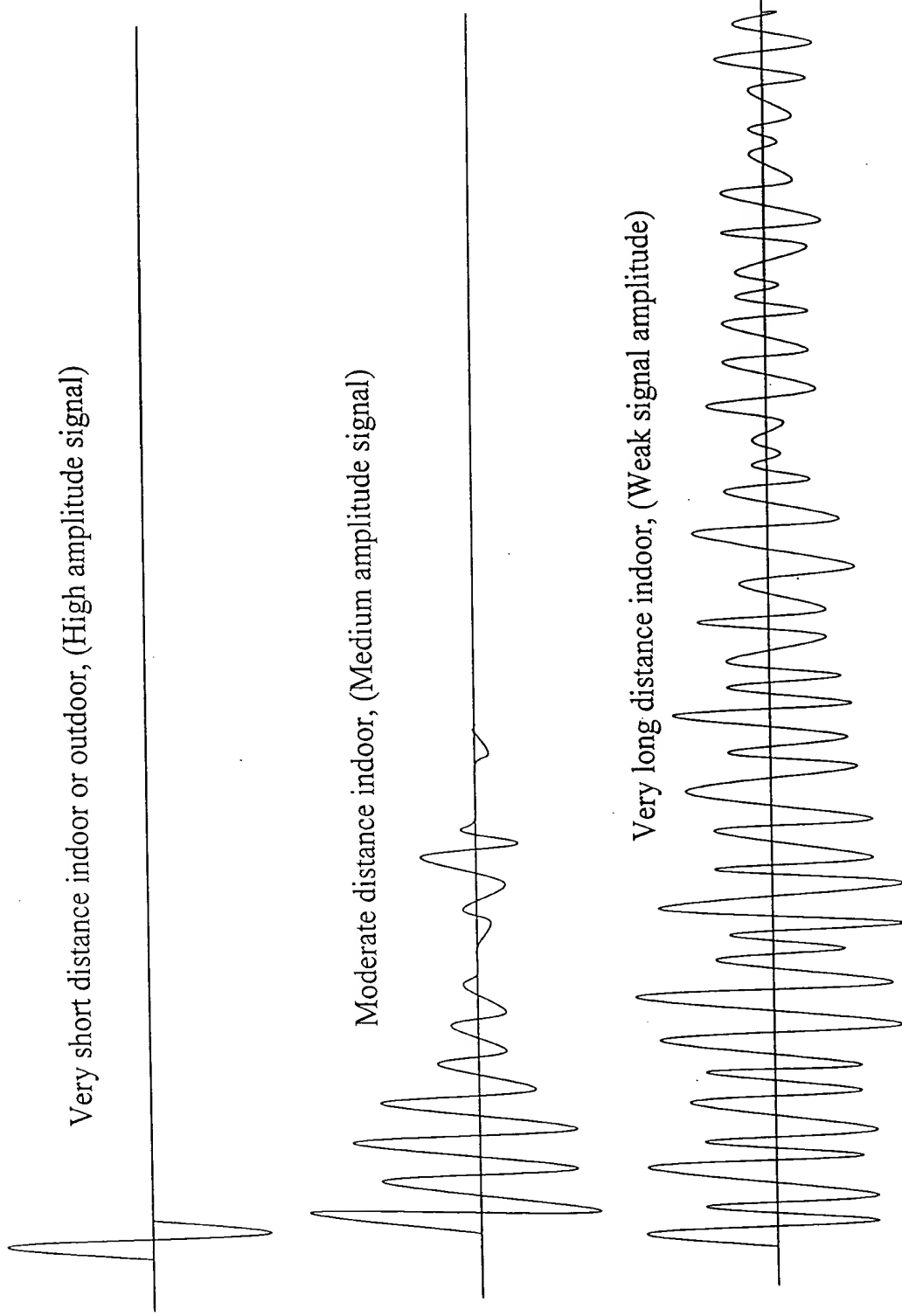
Multipath



Longer distances result in longer relative multipath decay times.

FIG. 7D

Positioning Algorithms for Multipath



Algorithm searches for first pulse in multipath burst to find
shortest distance in each case

FIG. 7E

Multipath Distance Algorithm

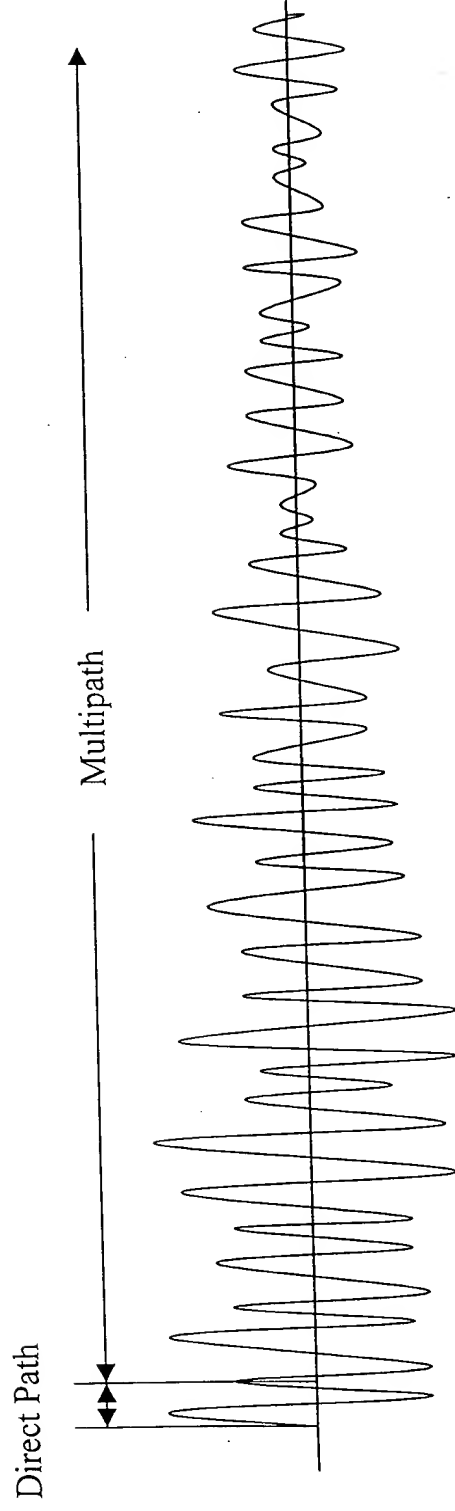
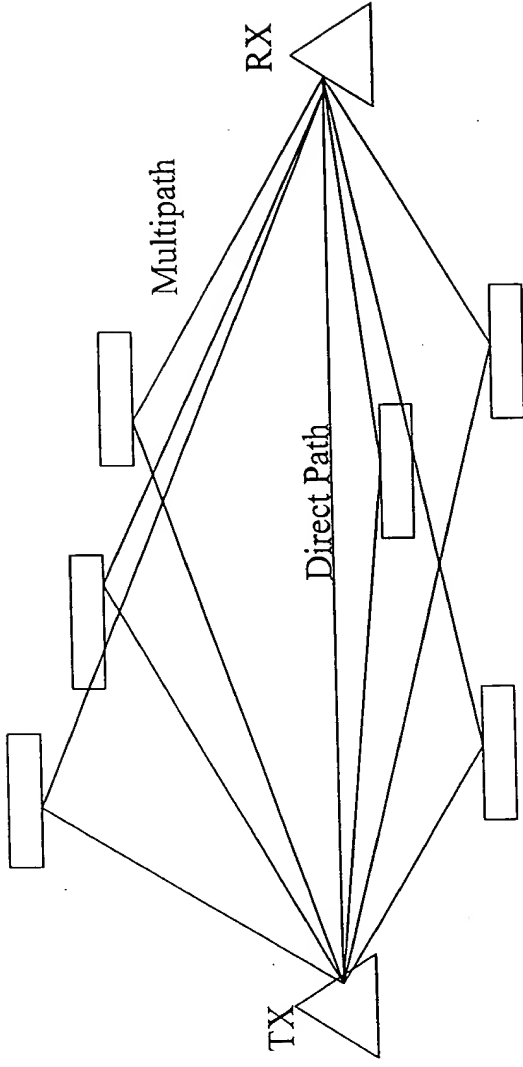


FIG. 7F